CURRICULUM VITAE

Marci Lynn Copeland

Education

Master of Science, Biotechnology
Indiana University School of Medicine, Indianapolis, IN 2008
Thesis: "Development and Application of a Mass Spectrometry-Based Quantitative Assay for Apolipoprotein M in Human and Mouse Serum"

Bachelor of Science, Biology
Indiana University, Bloomington, IN 2004

Professional Experience

Research Associate, Monarch LifeSciences, LLC, Indianapolis, IN, 2006-present

- Responsible for preparation of biological samples including serum, cell lysate, tissue, etc. using one-dimensional gel electrophoresis (1DE) and in-gel digestion or in-solution digestion of proteins prior to analysis via high performance liquid chromatography (HPLC) coupled to mass spectrometry (MS)
- Responsible for preparing instrument for analysis, including cleaning and buffer preparation, and running prepared samples
- Develop and implement targeted MS-based assays for identification and quantification of specific proteins
- Optimize HPLC gradient conditions prior to mass spectrometry in targeted assay development

Analytical Chemist, Pace Analytical Services, Inc, Indianapolis, IN, 2004-2006

- Prepare environmental water and soil samples for chemical analyte analysis
- Quantify chemical components using gas chromatography (GC) and GC-MS analysis
- Responsible for running, calibrating, and maintaining instruments to pass daily quality control standards
- Prepare data reports to communicate results to the clients
- Comply with government Environmental Protection Agency (EPA) and Good Laboratory Practice (GLP) standards
- Participate in regular client and governmental agency audits
- Write and routinely assess standard operating procedures (SOPs)

Research and Training Experience

Proteomics:

- Developed a MS-based assay for the quantification of apolipoprotein M in human and mouse serum
- Comprehend sample preparation procedures prior to mass spectrometry and apply to optimization of sample preparation protocols in newly developed assays
- Applied targeted assay to pre-clinical and clinical applications by performing sample preparation, instrument analysis and data collection and interpretation
- Performed data analysis and statistical interpretations using XCalibur processing method and GraphPad Prism statistical software
- Compiled research data and presented results with interpretations to committee members and outside members

Genetics:

- Volunteer laboratory assistant for Ph.D. candidate and post-doc scientists in Dr. Loren Rieseberg's laboratory at Indiana University who were studying natural selection in the evolution of *H. annuus*, a common weed
- Assisted in sorting, analyzing, and compiling genetic data from *H. annuus* seeds, leaves, and petals
- Used different microscopy techniques to analyze and record physical appearance of leaves and petals

Conferences

55th ASMS Conference on Mass Spectrometry and Allied Topics, Indianapolis, IN 2007

- Poster session: "Development of a Highly Sensitive High-Throughput Mass Spectrometry-Based Assay for Rat Procollagen Type-I N-Terminal Propeptide (PINP); Bomie Han, Laura Hale, Masahiko Sato, Jinsam You, Marci Copeland, John Hale

Publications

- Han B, Copeland M, Geiser AG, Hale LV, Harvey A, Ma YL, Powers CS, Sato M, You J, Hale JE, *Development of a Highly Sensitive High-Throughput Mass Spectrometry-Based Assay for Rat Procollagen Type-I N-Terminal Propeptide (PINP),* Journal of Proteome Research, 2007. **6**(11): p. 4218-4229
- In progress: Copeland M, "Development and Application of a Mass Spectrometry-Based Quantitative Assay for Apolipoprotein M in Human and Mouse Serum"